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(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

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(54) Title: METHODS OF SCREENING FOR ANTI-INFLAMMATORY DRUGS AND USE THEREOF

(57) Abstract: The present invention relates to methods for screening small organic compounds capable of inhibiting the interactions of glycosaminoglycans with effector cell adhesion molecules. Specifically, the present invention provides a method for screening of small organic compounds, the compounds inhibit the interaction of heparin with L-selectin or P-selectin. The compounds identified by the methods of the invention are useful for treating inflammatory disorders, autoimmune diseases and cancer.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL03/01116

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G01N 33/53; C07K 16/00; A61K 39/395

US CL : 435/7.1; 530/387.1; 424/130.1

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 435/7.1; 530/387.1; 424/130.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Medline, STN and WEST**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KOENIG et al. Differential interactions of heparin and heparan sulfate glycosaminoglycans with the selectins. Implications for the use of unfractionated and low molecular weight heparins as therapeutic agents. J. Clin. Invest. 15 February 1998, Vol. 101, No. 4, page 877-889. See the entire document.	1-12, 14-35
X	DIAMOND et al. Heparin is an adhesive ligand for the leukocyte integrin Mac-1 (CD11b/CD1). J. Cell Biol. 1995, Vol. 130, No. 6, page 1473-1482.	1-7, 12, 14-17
---		8-11, 18
Y		
X	HAUGEN et al. A cell-surface heparan sulfate proteoglycan mediates neural cell adhesion and spreading on a defined sequence from the C-terminal cell and heparin binding domain of fibronectin, FN-C/H II. J Neurosci. July 1992, Vol. 12, No. 7, page 2597-2608.	1-12, 14-35
X	WO 00/45831 A1 (THOMAS JEFFERSON UNIVERSITY) 10 August 2000 (10.08.2000), entire document.	1-12, 14-35
X	NELSON et al. Heparin oligosaccharides bind L- and P-selectin and inhibit acute inflammation. Blood. 1 December 1993, Vol. 82, No. 11, page 3253-3258.	1-6, 8-12, 14-20, 22-27

Y		7, 21



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

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later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

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INTERNATIONAL SEARCH REPORT

PCT/IL03/01116

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PETER et al. Heparin inhibits ligand binding to the leukocyte integrin Mac-1 (CD11b/CD18). Circulation. 5 October 1999, Vol. 100, No. 14, page 1533-1539.	1-12, 14-35

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL03/01116

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claim Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claim Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☒ Claim Nos.: Claim 13
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐
☐

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.